



Application No. 09/922,948
Docket No. 033713.003

Version with Markings to Show Changes Made

Amendments in the Claims

In accordance with 37 C.F.R. § 1.121(c) the following version of the claims as rewritten by the foregoing amendment shows all the changes made relative to the previous version of the claims.

1. (Amended) A hardening protection composition for partial carburization of a metallic component, comprising a substance which forms boron glass and a magnesium-silicon compound, wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 2:1 to 100:1.

9. (Amended) The hardening protection composition according to claim 1 wherein the substance that forms [boric acid] boron glass is boric acid, boron oxide, alkali metal and/or alkaline earth metal borates.

10. (Amended) The hardening protection composition according to claim 1 further comprising, 35-70 wt.% based on the total weight of an organic binder system formulated in a liquid, semi-liquid or paste[-like] consistency.

14. (Amended) A method for surface hardening of metal surface comprising applying to at least a portion of said surface a composition comprising a substance which forms boron glass and a magnesium-silicon compound in a weight ratio of 2:1 to 100:1, and there after subjecting said surface to a surface hardening treatment.

New Claims 17 and 18 are added.

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REMARKS

Reconsideration is respectfully requested of the Official Action of August 28, 2002, relating to the above-identified application.

With entry of the foregoing amendment, the claims in the application are Claims 1, 3, 5, and 7-18.

The subject matter of Claim 2 has been incorporated into Claim 1, thereby rendering redundant original Claims 2, 4 and 6.

With regard to the comment concerning the Information Disclosure Statement on page 2 of the Official Action, applicants file herewith a copy of the Official Action from the German Patent Office relating to the counterpart German application and the Examiner's attention is drawn to the fact that the two references listed on applicants' Information Disclosure Statement as documents AJ and AK are indicated as documents 2 and 3 in the Official Action from the German Patent Office. A translation by a competent translator who is familiar with the German and English languages accompanies the copies of the Official Action from the German Patent Office. It will be noted that the translation discusses and contains comments with respect to the two German-language citations. Accordingly, it is respectfully requested that the Examiner reconsider and indicate that references AJ and AK have been considered based on the comments of the German Examiner.

The rejection of Claims 9-13 under 35 U.S.C. § 112 (second paragraph) is traversed and reconsideration is respectfully requested. Claims 9 and 10 have been amended to remove those

matters which were considered as objectionable in the Official Action. Accordingly, it is believed that the claims comply with 35 U.S.C. § 112.

The rejection of Claims 1, 7 and 9 under 35 U.S.C. § 102(b) as anticipated by *Hirooka, et al.*, (U.S. 5,330,813) is traversed and reconsideration is respectfully requested.

The Official Action describes the reference as disclosing a patch for preventing carburization which patch includes borax, boron oxide, borosilicate acid, phenylboric acid and water glass. Materials such as talc and magnesia can also be used. It should be noted that Claims 1, 7 and 9 now include the limitation from original Claim 2 as to the weight ratio of the boron glass and the magnesium-silicon compound. It is clear that *Hirooka* fails to disclose a hardening protection composition for partial carburization of a metallic component where the boron glass and magnesium silicon compound are present in a weight ratio of 2:1 to 100:1. Consequently, *Hirooka* no longer anticipates the subject matter of the claims herein and reconsideration is respectfully requested of the rejection.

The rejection of Claims 14, 15 and 16 as anticipated by *Hirooka* '813 is traversed and reconsideration is respectfully requested. Through the amendments discussed herein, applicants respectfully submit that *Hirooka* does not anticipate Claims 14-16 and, therefore, the rejection should be withdrawn.

The rejection of Claims 3, 5 and 11-13 is traversed and reconsideration is respectfully requested. The Examiner cites the *Hirooka* patent and relies on 35 U.S.C. § 103(a). The Official Action admits that *Hirooka* does not show the weight ratio and takes the position that it is not inventive to cover the optimum or workable ranges by routine experimentation. However,

a person skilled in the art would not even know where to start in terms of the "routine experimentation" and furthermore, there is no hint in *Hirooka* as to increasing the weight ratio of boron glass or increasing the weight ratio of magnesium silicon compound would be beneficial. Without some guidelines as to direction in which ratio should be changed, applicants respectfully submit that there is no reason, motivation or suggestion in *Hirooka* which would enable a person skilled in the art to arrive at the claimed weight ratios set forth in the rejected claims.

It should be noted that the purpose of the present invention is to add the magnesium silicon compound in a definite weight ratio to substances forming boron glass in order to avoid vaporizing of the boron compound. Thus, the magnesium silicon compounds are used for protecting the boron compound. The vaporization of the boron compounds would damage the carburization plant (see page 2 of the application) since the vaporized compound is deposited on unprotected segments of the metal to be hardened and on the surface of the components of the plant, thereby causing more accelerating corrosion. Further advantage of the compounds according to the invention is the reduction of the running off of the hardening protection composition in a temperature range of 800°C to 1100°C.

Applicants draw the Examiner's attention to the advantages as discussed in the application for the reason that a person skilled in the art faced with the problem of protecting boron compounds would not find the solution to that problem in the *Hirooka* patent. There is no hint, suggestion, or motivation in *Hirooka* for choosing magnesium silicate compounds in order to protect the boron compound as described herein. Hence, it is believed that in the absence of the motivation to select the magnesium silicon compound from a host of other unrelated

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compounds which do not have similar affects, an insufficient basis has been established for rejecting the claims as *prima facie* obvious. There must be some reason, suggestion or motivation in the prior art itself to justify rejecting the claims as rendered obvious by the prior art. Applicants respectfully submit that the reference fails to provide the necessary basis to sustain a rejection under 35 U.S.C. § 103.

It is noted with appreciation that Claims 8 and 10 have been indicated as allowable.

Respectfully submitted,

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